

IN THE CLAIMS:

Please cancel claims 1 – 38. Please add claims 39 – 66.

Claims 1 - 38 (cancelled).

39. (new) A method of automatic statistics generation and management, comprising:

receiving video input data of a game;

generating tracking information by tracking elements, including a player and a ball, in the video input data throughout a course of the game; and

generating in real-time semantic information based on the tracking information, without input from an operator, utilizing software applications which include rules and determine from the tracking information sporting statistics that are to be recorded for the game,

wherein the semantic information describes actions during the game that lead to consequences which are semantically significant in the game.

40. (new) The method according to claim 39, further including storing the sporting statistics.

41. (new) The method according to claim 39, further including analyzing the sporting statistics.

42. (new) The method according to claim 39, further including providing the video input data from at least one video camera located at the sporting event.

43. (new) The method according to claim 39, further including receiving a query for the sporting statistics.

44. (new) The method according to claim 39, further including analyzing the

sporting statistics to discover patterns and predict future trends.

45. (new) The method according to claim 39, wherein the video input data is enhanced by a radio frequency (RF) beacon.

46. (new) An automatic statistics generation and management system, comprising:

a head-end system to receive video input data of a game, to generate tracking information by tracking elements, including a player and a ball, in the video input data throughout a course of the game, to generate in real-time semantic information and geometric information based on the tracking information, without input from an operator, wherein the semantic information describes actions during the game that lead to consequences which are semantically significant in the game;

a statistics generation system, utilizing software applications which include rules and determine, from at least one of the semantic information and the geometric information received from the head-end system, sporting statistics that are to be recorded for the game; and

a statistics management system to store and manage the sporting statistics received from the statistics generation system.

47. (new) The system according to claim 46, further including at least one video camera, located at the sporting event, to provide the video input data to the head-end system.

48. (new) The system according to claim 46, further including a gateway connected to the statistics management system to support query applications from a user interface.

49. (new) The system according to claim 46, wherein the statistics generation system includes:

- a model manager to access the semantic information and the geometric information; and
- a statistics generator to receive and process at least one of the semantic and geometric information from the model manager to generate the sporting statistics.

50. (new) The system according to claim 46, wherein the statistics management system includes:

- a statistics database to store and manage the sporting statistics; and
- a data miner to extract and analyze the sporting statistics stored in the statistics database.

51. (new) The system according to claim 50, wherein the data miner analyzes the sporting statistics to discover patterns and predict future trends.

52. (new) The system according to claim 46, wherein the semantic information is an Extended Markup Language (XML) file.

53. (new) The system according to claim 46, wherein the sporting statistics are saved in a predefined Extended Markup Language (XML) schema.

54. (new) The system according to claim 46, wherein the video input data is enhanced by a radio frequency (RF) beacon.

55. (new) A program code storage device, comprising:

- a program code storage medium; and
- machine-readable program code, stored on the program code storage medium, which when executed cause a computing device to

receive video input data of a game,  
generate tracking information by tracking elements, including a player and a ball,  
in the video input data throughout a course of the game, and  
generate in real-time semantic information based on the tracking information,  
without input from an operator, utilizing software applications which include rules and  
determine from the tracking information sporting statistics that are to be recorded for  
the game,  
wherein the semantic information describes actions during the game that lead to  
consequences which are semantically significant in the game.

56. (new) The program code storage device according to claim 55, wherein the  
machine-readable program code further includes instructions, which when executed  
cause the computing device to store the sporting statistics.

57. (new) The program code storage device according to claim 55, wherein the  
machine-readable program code further includes instructions, which when executed  
cause the computing device to analyze the sporting statistics.

58. (original) The program code storage device according to claim 55, wherein  
the machine-readable program code further includes instructions, which when executed  
cause the computing device to provide the video input data from at least one video  
camera located at the sporting event.

59. (original) The program code storage device according to claim 55, wherein  
the machine-readable program code further includes instructions, which when executed  
cause the computing device to receive a query for the sporting statistics.

60. (original) The program code storage device according to claim 55, wherein

the machine-readable program code further includes instructions, which when executed cause the computing device, to analyze the sporting statistics to discover patterns and predict future trends.

61. (new) The program code storage device according to claim 31, wherein the video input data is enhanced via a radio frequency (RF) beacon.

62. (new) An automatic statistics generation and management system, comprising:

a head-end system, including

a tracking system to receive and process video input data of a game to generate tracking information by tracking elements, including a player and a ball, in the video input data throughout a course of the game, and

a production system to receive and process the tracking information to generate in real-time semantic information and geometric information based on the tracking information, without input from an operator, wherein the semantic information describes actions during the game that lead to consequences which are semantically significant in the game;

a statistics generation system including a model manager to receive and access the semantic information and the geometric information, and a statistics generator to receive and process at least one of the semantic information and the geometric information, utilizing software applications which include rules and utilize the tracking information to generate sporting statistics; and

a statistics management system having a statistics database to store and manage the sporting statistics, and a data miner to extract and analyze the sporting statistics stored in the statistics database.

63. (new) The system according to claim 62, further including at least one video camera, located at the sporting event, to provide the video input data to the head-end system.

64. (new) The system according to claim 62, further including a gateway connected to the statistics management system to support query applications from a user interface.

65. (new) The system according to claim 62, wherein the data miner analyzes the sporting statistics to discover patterns and predict future trends.

66. (new) The system according to claim 62, wherein the video input data is enhanced via a radio frequency (RF) beacon.